Unergative verbs in Mandarin Chinese
Thomas LEE[1] & Yaqiao LU[1] & Waltraud PAUL[2]
Chinese University of Hong Kong[1] & CRLAO, CNRS-EHESS-INALCO, Paris[2]
N.B. This word document has the same content as the poster.

INTRODUCTION
➢ Chinese offers an important window on the phenomenon of split intransitivity in general, and on the issue of unergative verbs, in particular, given that it has less syntactically intransitive verbs than other languages such as English.
• In Chinese, the lower number of syntactically intransitive verbs is due to the more systematic nature of *cognate* or *hyponymous objects* (cf. Massam 1990, Hale & Keyser 2002): *zǒu lù* 'walk street' = 'to walk'; *pǎo bù* 'run step' = 'to run', *tiào wǔ* 'jump dance(N)' = 'to dance', *shuì jiào* 'sleep sleep(N)' = 'to sleep' etc.

COGNATE AND HYPONYMOUS OBJECTS
➢ From a <u>syntactic</u> point of view, cognate objects (CO) in Chinese pattern with what Massam (1990: 164) calls *true cognate objects* in English: they cannot be passivized, topicalized, questioned or pronominalized. Furthermore, as in English, cognate objects in Chinese must be case-licensed like ordinary objects and are not incorporated, as witnessed by the position of aspectual verb suffixes, which must follow the verb, not the VP (cf. (1)).

(1) Tā měitiān [*v*P [pǎo-le] bù](*-le) yǐhòu jiù chī zǎofàn.
     3SG every.day   run-PERF step -PERF after then eat breakfast
     'Every day, after he has run he eats his breakfast.'

This is confirmed by other phenomena such as verb copying which also involves merging with the verbal head, not the VP (cf. Huang 1982, 1988; Paul 2017 and references therein)

(2a) Tā shuì jiào   shuì -le sān ge xiǎoshí.
      3SG sleep sleep(N) sleep-PERF 3 CL hour
      'She slept for three hours.'

(2b) *Tā [*v*P shuì jiào   ]-le   sān ge xiǎoshí.
       3SG   sleep sleep(N)-PERF 3 CL hour

(3a) Tā zǒu lù   zǒu -de tèbié   kuài.
      3SG walk street walk-DE particularly fast
      'She walks particularly fast.'

(3b) *Tā [*v*P zǒu lù]-de tèbié   kuài.
       3SG   walk street DE particularly fast

➢ From a <u>semantic</u> point of view, however, most of the cognate objects in Chinese are on a par with what Hale & Keyser (2002: 71) call *hyponymous objects* where the verb identifies the complement sufficiently to make the object predictable:
(4a) He danced a jig (i.e. a *kind* of dance)   (4b) He bagged the potatoes in a gunnysack.

N.B. For Hale & Keyser (2002: 71) a *true cognate object* is headed by a noun which is root-identical to the nominal component of the associated denominal verb (cf. *sleep, laugh*):
(5a) She slept the sleep of the just.   (5b) He laughed his last laugh.

IN CHINESE NOT ALL UNERGATIVE VERBS ARE FUNDAMENTALLY TRANSITIVE

➢ Hale & Keyser (2002: 5-27, 103) analyse unergatives as denominal verbs, and postulate a particular type of Merge for unergative verbs that is characterized by a special semantic relation, i.e. a "binding relation that holds between the semantic features of a verb (phonologically overt now) and features of the nominal head of its complement", i.e. the cognate/hyponymous object.

➢ In Chinese, however, cognate/hyponymous objects cannot serve as a diagnostic criterion for unergative verbs, i.e. cognate objects are not confined to intransitive verbs in "transitivizing" object constructions (Massam 1990: 163).

- Cognate objects in Chinese also occur with transitive verbs and are mutually exclusive with ordinary objects as well as null objects: *chī fàn* 'eat food' = 'to eat'; *chī niúròumiàn* 'eat beef noddles'; **chī fàn niúròumiàn*; *kàn shū* 'read book' = 'to read'; *kàn yīngwén bàozhǐ* 'read an English newspaper'; **kàn shū [yīngwén bàozhǐ]*
- A subset of unergative verbs systematically lacks cognate objects

UNERGATIVE VERBS IN MANDARIN CHINESE

➢ We propose to consider as unergative only those intransitive verbs with a unique external argument that systematically lack cognate objects: *chàndòng* 'vibrate', *gōngzuò* 'to work, *guì* 'kneel', *huáxíng* 'glide', *huàng* 'sway', *hūxī* 'breathe', *nào* 'make noises', *jiào* 'shout, yell, make noise (of animals such as dogs, horses, pigs etc.)', *késou* 'to cough', *kū* 'cry'; *ǒutù* 'vomit', *pá* 'crawl', *piāo* 'float', *xiào* 'laugh' etc.

- We exclude VPs *translated* as unergative verbs (V°) into English such as *sneeze, hiccup*:
(6a) Ta dǎ   {pēntì/gé } dǎ -le   yī fēnzhǒng
     3SG strike sneeze/hiccup strike-PERF 1 minute
     'He sneezed/hiccupped for a minute.'
(6b) *Ta [vP dǎ   {pēntì /gé }]-le   yī fēnzhǒng
      3SG   strike sneeze/hiccup -PERF 1 minute
N.B. The verb *dǎ* 'strike' itself is not unergative, but transitive, selecting *pēntì* 'sneeze' and *gé* 'hiccup' as object.

- It is important to distinguish between unergative verbs with and without a cognate or hyponymous object. The delimitation (only V° to the exclusion of VPs) is not only necessary for the comparison of unergative with unaccusative verbs in Chinese (which never take COs), but guarantees the *tertium comparationis* indispensable for cross-linguistic studies.

SYNTACTIC STRUCTURES SIGNALING SPLIT INTRANSITIVITY

➢ In contrast to unaccusative verbs, unergative verbs are excluded from the existential construction (which displays the *Definiteness Effect*, cf. Huang 1987):

(7a) Lái -le   {sān wèi kèrén/*Zhāngsan/*[wǒ de péngyou]}
     come-PERF 3 CL guest/ Zhangsan/ 1SG SUB friend
     'There came three guests/Zhangsan/my friends.'

(7b) Sān wèi kèrén/Zhāngsan/[wǒ de   péngyou] lái   -le
     3 CL guest/Zhangsan/ 1SG SUB friend   come-PERF
     'The three guests/Zhangsan/my friends came.'

(8) *{Késou/ hūxī /gōngzuò }-le   sān wèi kèrén
        cough/ breathe/work   -PERF 3 CL guest

➢ The argument of unergative location verbs may be realized postverbally in the *locative construction* (LoC), characterized by an obligatory PlaceP in sentence-initial position. LoC illustrates Culicover & Levine's (2001) *Light inversion* (the postverbal NP is licensed VP-internally and PlaceP occupies the subject position SpecTP), *modulo* the acceptability of both unaccusative and unergative verbs and the fact that the PlaceP has not raised from VP in Chinese.

(9a) {Anbiān/*Ø} pá   -zhe /*-le   yī zhī wūguī
        bank   crawl-DUR/ -PERF 1 CL tortoise
    'On the bank is crawling a tortoise.'
(9b) {Shù xià /*Ø} huàng-zhe /*-le   yī ge qiūqiān
        tree under   sway -DUR/ -PERF 1 CL swing
    'Under the tree is swaying a swing.'
(10) (Wǒ jiā) lái -le   sān wèi kèrén.
        1SG home come-PERF 3   CL guest
        'There came three guests to my home.'

Unergative verbs are only licit in LoC when suffixed with the durative aspect *-zhe*, not the perfective aspect suffix *-le*, thus contrasting with unaccusative verbs.

SEMANTIC FEATURES UNDERLYING SPLIT INTRANSITIVITY
➢ The feature [+telic] is the major divide among (syntactically) intransitive verbs in Chinese: telic intransitive verbs are all unaccusative, whereas unergative verbs are atelic (cf. Tenny 1987).

(11a) Ta zài   kū / zài   késou/ zài   gōngzuò/ zài pá
        3SG PROGR cry/ PROGR cough/ PROGR work   / PROGR crawl
        'He is crying/coughing/working/crawling.'

(11b) Ta {kū / késou/ gōngzuò/ pá } -le   bàn ge xiǎoshí
        3SG cry/ cough/ work   / crawl -PERF half CL hour
        'He cried/coughed/worked/crawled for half an hour.'

(12a) *Zhāngsan zài   lái   (12b) *Zài   lái sān wèi kèrén
        Zhangsan PROGR come   PROGR come 3 CL guest
        ('Zhangsan is coming.')   ('There are three guests coming.')

(12c) *Zhāngsan lái -le   / zǒu -le   bàn ge xiǎoshí
        Zhangsan come-PERF/ leave-PERF half CL hour
        ('Zhangsan came/left during half an hour.')

➢ From a semantic point of view, the Chinese facts conform to the generalization that unergative verbs are internally caused (cf. Levin & Rappaport Hovav 1995), as they are odd with the *bú shì zìjǐ de* 'not by oneself construction.

(13) ??Zhāngsān bù shì zìjǐ késou de.
     Zhangsan not be self cough DE
     ??'Zhangsan did not cough by himself.'

➢ Agentivity is not a crucial semantic feature for split intransitivity, as unergatives may be agentive or not. Verbs like *pá* 'crawl', *kū* 'cry', *xiào* 'laugh', *gōngzuò* 'work' illustrate agentive (hence internally caused) unergative verbs, whereas verbs such as *késou* 'cough' denote events that are internally caused, but non-agentive.

ADVANTAGES OF THE SEMANTIC ANALYSIS

➢ The semantic analysis enables us to explain why some intransitive resultative V-V compounds can be unaccusative, in contrast to others that are not, although apparently they have the same composition (cf. Gu 1992, Sybesma 1999, Huang 2006, Hua 2010).

(14) a. *Fēi-xíng-le   sān jià fēijī.
        fly-march-PERF three CL plane
        ('Three planes finished their flight.')
     b. Fēi-shàngqù-le sān   jià fēijī.
        fly-up-to-PERF three CL   plane
        'Three planes flew up.'

• According to Li (1990), the argument structure of a given RVC can be predicted by the theta grids of its two components, and the way their arguments are identified (co-refer to the same referent). As *fēi-xíng* 'fly-march, fly' has the same V1 as *fēi-shàngqù* 'fly-go-up, fly up', and the sole arguments of their V1s are identified with those of V2s in a similar way, it would be difficult to explain for Li (1990) why the former falls into the unergative class, whereas the latter is shown to be an unaccusative one.
• This fact can be explained by the telic property of *fēi-shàngqù* in contrast to *fēi-xíng*.

➢ The semantically-based account for unergative vs unaccusative verbs is important for their acquisition.
• An initial analysis of adult input in the Beijing child language corpus shows unaccusative verbs to overwhelmingly occur in the 'NP V' structure (cf. Lu & Lee 2016, 2017). This might be due to the high number of definite NP arguments used in naturalistic discourse which, given the Definiteness Effect for unaccusative verbs (cf. (7a-b)), must be encoded VP-externally as subject (cf. Huang 1987).
• Notwithstanding the partly identical input structures for both unaccusative and unergative verbs, all the three children aged between 1;6 and 2;6 produced higher proportions of unaccusative verbs with a postverbal NP argument than unergative verbs. They also produced novel 'V NP' structures exclusively for unaccusative verbs, thus demonstrating their ability to discern the two verb classes.

Selected references
Huang, C.-T. James. 1987. Existential sentences in Chinese and (in)definiteness, In *The Representation of (In)definiteness*, eds., E. Reuland and A. ter Meulen, 226-253. CAmbridge, MA: MIT Press.
Hale, K. & S. J. Keyser. 2002. *Prolegomenon to a Theory of Argument Structure*. MIT Press.
Lee, T. & Y. Lu. 2016. Intransitive verbs in child Mandarin: Acquiring the unaccusative vs. unergative distinction. Paper presented at ICCL16, Tongji University, Shanghai, China Oct. 28-30.
Lee, T. & Y. Lu. 2017. The semantic basis of unaccusativity. Paper presented at IACL-25, Eötvös Loránd University, Budapest; June 25-27, 2017.